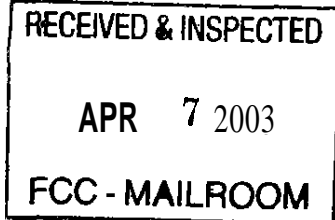


DOCKET FILE COPY ORIGINAL

# Texas Department of Transportation

DEWITT C. GREER STATE HIGHWAY BLDG • 125 E. 11TH STREET. AUSTIN, TEXAS 78701-2483 • (512) 463-8585

April 7, 2003



Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12th Street SW  
Washington, DC 20554

RE: FCC Dockets  
WT No. 01-90  
ET No. 98-95, RM 906  
Comments of the Texas Department of Transportation in the Matter of Amendment  
of the Commission's Rules Regarding Dedicated Short Range Communications  
(DSRC) in the 5.850 – 5.925 GHz Band (5.5 GHz Band)

Dear Ms. Dortch:

The Texas Department of Transportation (TxDOT) considers the above referenced dockets concerning the Proposed Rulemaking and Order (the "PRO") related to the allocation of the 5.850- 5.925 GHz DSRC radio band (the "ITS RS Band") to be of extraordinary importance to Texas and all of North America ("NA"). The PRO is of such importance to Texas transportation enhancements that TxDOT has solicited review and comments from a variety of its qualified resource personnel. Because of the extensive review of the PRO, this response was not completed by the March 17, 2003 filing deadline. Thus, TxDOT is filing herewith its comments post March 17 and hereby files a "motion for leave to file late comments".

The economic vitality of NA is dependent upon the uncongested movement of people, goods, and services; the predominant movement is and will continue to be via efficiently operated highway/street grids. Today, funding of the critically needed expansions, improvements, and operation of this grid does not approach the levels required to provide the demanded mobility. There is no visible prospect of increased funding. Thus, operators of such grids are seeking **new** tools to expand and improve the operating properties of the grid. TxDOT perceives that the allocation and proper regulation of the subject ITS RS Band can significantly improve the capability of grid operators to move large volumes of traffic more efficiently and deliver public safety innovations that in themselves enhance mobility and reduce personal injury and property damage losses, all adding value to the national economy. The public safety


No. of Copies rec'd \_\_\_\_\_  
List ABOVE

enhancements can include and accommodate vital homeland security communications and initiatives.

TxDOT will comment upon the PRO in the same sequence as listed in Attachment 2 of FCC publication 02-302.

The following represents TxDOT's positions and recommendations. Thank you for the opportunity to comment. This comment document is recognized to have redundancies, but such is intended in order to follow PRO Attachment 2 subject order in FCC publication 02-302.

Sincerely,

A handwritten signature in black ink, appearing to read "M. W. Behrens", with a stylized flourish at the end.

Michael W. Behrens, P.E  
Executive Director

Attachment

cc: Judy Boley Herman, Federal Communications Commission

COMMENTS OF THE TEXAS DEPARTMENT OF TRANSPORTATION  
RELATIVE TO FCC DOCKETS WT NO. 01-90 AND ET NO. 98-95, RM 906, ALL  
IN THE MATTER OF AMENDMENT OF THE COMMISSION'S RULES  
REGARDING DEDICATED SHORT RANGE COMMUNICATIONS IN THE  
5.850-5.925 GHZ BAND (5.9 GHZ BAND)

Interoperability (NPRM paragraphs 24-34).

- The efficient movement of people, goods, and services can be greatly enhanced by instituting electronic radio band transmit/receive (TWRX) standards upon which to conduct public safety operations, electronic transactions, provide traveler information, and track movements of vehicles and goods throughout NA. Institutionalization of the standards within a single band width represents the only foreseeable path to achieve electronic TWRX interoperability benefiting both public safety and non-public safety needs throughout NA. The FCC should incorporate into its rules the ASTM E 2213-02, Standard Specification for Telecommunications and Information Exchange Between Roadside and Vehicle Systems – 5 GHz Band Dedicated Short Range Communications (DSRC) Medium Access Control (MAC) and Physical Layer (PHY) (the "ASTM – DSRC Std."). The ASTM DSRC Std. should apply to both public safety and non-public safety operations. Adoption of this standard will foster development of DSRC radio service.
- Federal, state, & local governments and their approved privatized sublicensees should be the prioritized users for vehicle and goods tracking (including customs services), vehicle/roadside electronic exchanges (such as travel guidance, data transfer, and messages), public safety features, and vehicle/roadside transactions [such as electronic tolling transactions (ETC)]. In public transportation corridors, the owning/operating governmental entity (the "Operator") should grant or approve channels and sublicense private commercial users in its specific corridors to ensure that public safety and Operator transaction TWRX emissions are not interfered with by private emissions. TxDOT supports Operator controlled private use of the ITS RS Band provided the FCC adopts the ASTM DSRC Std. Opening the band to regulated private use along and upon Operator transportation corridors (the "OTCs") via Operator granted or approved sublicenses will accelerate the manufacture and reduce the cost of the requisite TWRX hardware. The ASTM DSRC Std. should encompass a single standard for the TWRX hardware, and the FCC is urged to include hardware compatibility in its definition of interoperability.

- The FCC should adopt the single ASTM DSRC Std. for public safety and non-public safety DSRC operations.
- When the FCC adopts the single ITS RS Band ASTM DSRC Std., manufacturers of hardware will produce interchangeable equipment; for there will be a market and sales incentive which will advance deployment of DSRC radio service to the benefit of the public.
- FCC should create a separate definition of interoperability applicable to the ITS RS Band. The definition should require equipment compatibility. It is cost effective for NA to require that OBUs and related enabling hardware be compatible, thus ensuring interoperability among various components and introducing the associated competitive cost advantages.
- Much progress has been achieved by ITS America on defining standards for DSRC. Layers 1 and 2 of the ASTM DSRC Std. should be adopted by the FCC.
- There are valid questions concerning the cost of OBUs. TxDOT believes, with the adoption by the FCC of the ASTM DSRC Std., NA vehicle manufacturers will install the OBUs at time of production; thus, relative to the cost of the vehicle, the cost of the OBU becomes negligible. Thereby, Operators and users will be relieved of the separate purchase cost impact of the OBU as it will be embedded in the cost of the vehicle.

FCC Definition of "DSRC Service" (NPRM paras. 12-16).

Eligibility of Public Safety and Non-Public Safety Uses (NPRM paras. 17-23).

- The FCC position on its definitions of DSRC Service should be modified to delete "a variety of public and commercial environments" and be replaced with "a variety of environments" which should be subordinate to public safety uses. Also, the phrase "non-voice" should be deleted from the 47 C.F.R. § 90.7.
- Commercial use should be permitted within the ITS RS Band as commercial services have a support role in public safety issues, tracking of goods, electronic transactions, and communication of information. However, all commercial uses should have junior priority in relation to Operator public safety and electronic toll collection transactions, and the Operator should be empowered to grant or approve a sublicense for junior priority private commercial uses. Perhaps the UN II Band will resolve this concern if dual band OBUs are deployed.

- The term “public safety” for the ITS RS Band should conform with the definition of “public safety services” [47 U.S.C. § 337 (f) **(1)**].
- ITS America’s position defining “private services” is the proper stance.

Licensing Plan (NPRM paras. 40-58).

- “Site licensing” is the correct option, but a better term would be Transportation Corridor Site License (the “TCSL”) (FCC may consider this a geographic license). The TCSL should be a single license for a defined single or interconnected system of transportation corridor(s) but not “site-specific” as discussed in Attachment 2 (11-A). TxDOT prefers to sublicense or to approve the sublicensing of private channel uses in its OTCs to ensure there is no interference between the private TWRX emissions and the public safety and Operator transactions/information exchange emissions. TxDOT would coordinate such sublicensing with the designated frequency coordinator. Alternatively, RSUs should be licensed by rule providing the Owner of a TCSL, in coordination with the designated frequency coordinator, the authority to issue or to approve the issuance of sublicenses or authorizations for RSUs to be located along or upon its OTCs. TxDOT should hold the primary public safety, private, and TCSLs on and along its transportation corridors with “along” being defined as an envelope along transportation corridors wide enough to ensure there are no licenses, sublicenses, or grants issued that would produce ITS RS Band emissions that would interfere with the TxDOT TCSL TWRX emissions.
- OBU’s should be licensed under FCC Rule but the Rule should provide controls to mitigate interference with RSU emissions. Part 15 OBU rules appear to be deficient in protecting public safety, Owner, and private RS TX/RX emissions. All licensed by rule OBUs should have their emissions controlled by standards. The FCC and the vehicle manufacturers should jointly develop a mutually acceptable rule which ITS America can and will support.
- FCC should adopt ITS America’s proposed Band Plan.

Grant of Licenses (NPRM paras. 59-62).

- No Comment invited.

Application, Licensing and Processing Rules (NPRM para. 63-67).

- Part 90 rules should be adopted for “public safety” licensing. Auctions should not be used for non-public safety licenses. Non-public safety licensing should be subject to the approval of the Operators of OTCs.
- Highway infrastructure design, construction, and deployment are routinely lengthy. TCSLs of 40 year terms are recommended; because, toll financed corridors routinely have debt service terms of 40 year duration.

Competitive Bidding Procedure (NPRM paras. 75-81).

- From a broad, generic sense the deployment and operation of the ITS RS Band along a transportation corridor should be considered a public benefit realized by expansion of the public safety operations to include transportation corridor traveler benefits inclusive of ETC, other ITS services, travel information, communications and other related benefits which, in the opinion of the Operator, aggregate to the advantage of its corridor travelers and movement of goods. As such, the TCSLs should remain under the exclusive management of the transportation corridor Operators and not be subject to public auction. The corridor and its travelers will be better served under the exclusive Operators’ TCSLs than by unknown parties acquiring channel access via auction. Operators’ holding TCSLs should be empowered to grant or to approve any transportation corridor site sublicenses in coordination with the assigned frequency coordinator.

Technical Rules (NPRM paras. 68-73).

- No comments at this time.

Canadian and Mexican Coordination (NPRM para. 74).

- ITS America reports it has coordinated the ITS RS Band with Mexico & Canada. TxDOT supports the FCC restrictions that prevent harmful RF interference across national borders. However, to serve the NA continent well, the ITS RS Band must be coordinated among Canada, USA, and Mexico. TxDOT understands that a three-country agreement can be supported and executed.

In summary, TxDOT recommends:

- FCC adopt and implement by Rule the ASTM-DSRC Std. concerning allocation, deployment, and operation of the ITS RS band.
- FCC grant exclusive ITS RS Band TCSLs to Operators encompassing public safety and public benefits inclusive of ETC, travel information and communications. goods movement and tracking, message exchanges and transactional data transmissions.
- The Operators be authorized by FCC Rule to grant or approve sublicenses for secondary or junior channels for qualified private uses beneficial to transportation corridor travelers to ensure there are no conflicts with primary DSRC emissions, all in coordination with the designated frequency coordinator, with the FCC creating rules governing the granting or approval of sublicensed RSUs by the Operators.
- OBUs be licensed by rule with the rule being jointly developed by the vehicle manufactures and the FCC, with said rule protecting all uses required by the Operators and the public safety capabilities of the OBU.
- NA wide interoperability on the single ITS RS Band is vital to future mobility, the economy, and public safety.
- FCC adopt the ITS America Band Plan.
- FCC not pursue auction of private channels in transportation corridors in and along the corridor in which a TCSL has been issued to an Operator but leave the discretion of the granting or approval of a private sublicense to the transportation corridor Operator coordinated with the designated frequency coordinator and under rules promulgated by the FCC.
- FCC to continue issuing and renewing licenses providing the authority to operate ETC systems under current 902-928 MHz bands.